

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**In re Application of:**

Vogels et al.

**Serial No.:** To be assigned

**Filed:** February 20, 2004

**For:** MEANS AND METHODS FOR  
FIBROBLAST-LIKE OR MACROPHAGE-  
LIKE CELL TRANSDUCTION

**Examiner (presumed):** J. Qian

**Group Art Unit (presumed):** 1632

**Attorney Docket No.:** 2578-3982.3US

**NOTICE OF EXPRESS MAILING**

Express Mail Mailing Label Number: EV326919496US

Date of Deposit with USPS: February 20, 2004

Person making Deposit: Christopher Haughton

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In compliance with the duty to disclose information material to patentability pursuant to 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 or PTO/SB/08 be considered by the Examiner and made of record. Copies of the listed documents are enclosed pursuant to 37 C.F.R. § 1.98(a).

In accordance with 37 C.F.R. § 1.97(g) and (h), filing of this Information Disclosure Statement is not to be construed as a representation that a search has been made or an admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b). Further, no representation is made by Applicants herein that no other possible material information as defined in 37 C.F.R. § 1.56(b) exists.

U.S. Patent Documents

<u>U.S. Patent No.</u>	<u>Publication Date</u>	<u>Patentee</u>
#US - 5,585,254	12-1996	Maxwell et al.
#US - 5,631,236	05-1997	Woo et al.
#US - 5,770,442	06-1998	Wickham et al.
#US - 5,861,290	01-1999	Goldsmith et al.
#US - 6,329,190	12-2001	Wickham et al.
#US - 6,455,314	09-2002	Wickham et al.

Foreign Patent Documents

<u>Document No.</u>	<u>Publication Date</u>	<u>Patentee</u>
#97/00326	01-03-1997	Introgene B.V.

Other Documents

- #BOUCHER et al., J. Clin. Invest., 1999 Feb, pp. 441-45, Vol. 103.
- #BOWIE et al., Science, 1990 Mar, pp. 1306-10, Vol. 247.
- #CRYSTAL et al., Transfer of Gene to Human: Early Lessons and Obstacles to Success, 1995, Science, Vol. 270, pp. 404-10.
- #DEONARAIN, Expert Opin. Ther. Pat., 1998, pp. 53-69, Vol. 8.
- #ECK et al., Gene-Based Therapy, 1996 Goodman & Gilman's, pp. 77-101.
- #GALL et al., Journal of Virology, 1996, pp. 2116-23, Vol. 70.
- #GUZMAN et al., PNAS, 1994, pp. 10732-36, Vol. 91.
- #KAYE et al., A single amino acid substitution results in a retinoblastoma protein defective in phosphorylation and oncoprotein binding, September 1990, Proc. Natl. Acad. Sci., pp. 6922-26, Vol. 87.
- #LAZAROVITS et al., J. Immunol., 1993, pp. 6482-89, Vol. 151.
- #LUSKY et al., Journal of Virology, 1998, pp. 2022-32, Vol. 72.
- #MAKRIDES et al., Protein Exp. Pur., 1999, pp. 183-202, Vol. 17.

- #MEI et al., Virol., 1998, pp. 254-66, Vol. 240.
- #MILLER et al., FASEB J., 1995, pp. 190-99, Vol. 9.
- #ROBBINS et al., Pharmacol. Ther., 1998, pp. 35-47, Vol. 80.
- #RUDINGER et al., Characteristics of the amino acids as components of a peptide hormone sequence, 1976, Peptide Hormones, pp. 1-7.
- #RUSSELL et al., Nat. Genet., 1998 Apr., pp. 325-30, Vol. 18.
- #SHANG et al., J. Immunol., 1998, pp. 467-74, Vol. 160.
- #STEVENSON et al., J. Virol., 1997, pp. 4782-90, Vol. 6.
- #SU, et al., A Genetically Modified Adenoviral Vector Exhibits Enhanced Gene Transfer of Human Smooth Muscle Cells, Journal of Vascular Research 2001, pp. 471-78, Vol. 38.
- #VERMA et al., Nature, 1997, pp. 239-42, Vol. 389.
- #WICKHAM et al., Increased In Vitro and In Vivo Gene Transfer by Adenovirus Vectors Containing Chimeric Fiber Protein, Nov. 1997, Journal of Virology, pp. 8221-29, Vol. 71, No. 11.
- #WICKHAM et al., Increased In Vitro and In Vivo Gene Transfer by Adenovirus Vectors Containing Chimeric Fiber Protein, Nov. 1997, Journal of Virology, pp. 8221-29, Vol. 71, No. 11.
- #ZINK et al., Gene Ther. Mol. Biol., 2001 Jan., pp. 1-24, Vol. 6.

#Pursuant to 37 C.F.R. § 1.98(d), copies of the previously identified patents are not being provided since they were previously cited by or submitted to the Office in the following prior application:  
Serial No.: 09/517,898  
Filed: March 3, 2000  
For: MEANS AND METHODS FOR FIBROBLAST-LIKE OR MACROPHAGE-LIKE CELL TRANSDUCTION, which application is being relied upon for an earlier filing date under 35 U.S.C. § 120.

In compliance with the duty to disclose information material to patentability pursuant to 37 C.F.R. § 1.56, Applicants hereby identify the following listed copending applications naming a common inventor(s):

Attorney Docket No.: 2578-4075US  
Serial No.: 09/332,803  
Filing Date: 6/14/1999  
Title: PACKAGING SYSTEMS FOR HUMAN RECOMBINANT  
ADENOVIRUS TO BE USED IN GENE THERAPY

**Attorney Docket No.: 2578-3982.3US**

Attorney Docket No.: 2578-4123.2US  
Serial No.: 09/348,354  
Filing Date: 7/7/1999  
Title: CHIMAERIC ADENOVIRUSES

Attorney Docket No.: 2578-4231US  
Serial No.: 09/444,284  
Filing Date: 11/19/1999  
Title: GENE DELIVERY VECTORS PROVIDED WITH A TISSUE TROPISM FOR SMOOTH MUSCLE CELLS, AND/OR ENDOTHELIAL CELLS

Attorney Docket No.: 2578-3982.2US  
Serial No.: 09/517,898  
Filing Date: 3/3/2000  
Title: MEANS AND METHODS FOR FIBROBLAST-LIKE OR MACROPHAGE-LIKE CELL TRANSDUCTION

Attorney Docket No.: 2578-4038.1US  
Serial No.: 09/549,463  
Filing Date: 4/14/2000  
Title: RECOMBINANT PROTEIN PRODUCTION IN A HUMAN CELL

Attorney Docket No.: 2578-4070.1US  
Serial No.: 09/573,740  
Filing Date: 5/18/2000  
Title: SEROTYPE OF ADENOVIRUS AND USES THEREOF

Attorney Docket No.: 2183-4497US  
Serial No.: 09/621,593  
Filing Date: 7/21/2000  
Title: MEANS AND METHODS FOR RAISING ANTIBODY CONCENTRATION IN COMPARTMENTS OF THE BODY OF A NON-HUMAN ANIMAL

Attorney Docket No.: 2578-4192.1US  
Serial No.: 09/657,492  
Filing Date: 9/8/2000  
Title: MODIFIED ADENOVIRAL VECTORS FOR USE IN GENE THERAPY

Attorney Docket No.: 2578-4489US  
Serial No.: 09/665,472  
Filing Date: 9/20/2000  
Title: GENE DELIVERY VECTORS PROVIDED WITH A TISSUE  
TROPISM FOR DENDRITIC CELLS

Attorney Docket No.: 2578-4626US  
Serial No.: 09/722,867  
Filing Date: 11/27/2000  
Title: PRODUCTION OF VACCINES

Attorney Docket No.: 2578-4843US  
Serial No.: 09/843,894  
Filing Date: 4/27/2001  
Title: AAV VECTOR PRODUCTION

Attorney Docket No.: 2578-3840.1US  
Serial No.: 09/900,062  
Filing Date: 7/6/2001  
Title: PACKAGING SYSTEMS FOR HUMAN RECOMBINANT  
ADENOVIRUS TO BE USED IN GENE THERAPY

Attorney Docket No.: 2578-3833.5US  
Serial No.: 09/918,029  
Filing Date: 7/30/2001  
Title: PACKAGING SYSTEMS FOR HUMAN RECOMBINANT  
ADENOVIRUS TO BE USED IN GENE THERAPY

Attorney Docket No.: 2578-4509.1US  
Serial No.: 09/928,262  
Filing Date: 8/10/2001  
Title: GENE DELIVERY VECTORS WITH CELL TYPE  
SPECIFICITY FOR PRIMARY HUMAN CHONDROCYTES

Attorney Docket No.: 2578-4123.1US  
Serial No.: 09/953,280  
Filing Date: 9/14/2001  
Title: CHIMAERIC ADENOVIRUSES

Attorney Docket No.: 2578-5148US  
Serial No.: 10/002,750  
Filing Date: 11/15/2001  
Title: COMPLEMENTING CELL LINES

**Attorney Docket No.: 2578-5006.1US**

**Serial No.: 10/010,645**

**Filing Date: 11/13/2001**

**Title: GENE DELIVERY VECTORS WITH CELL TYPE  
SPECIFICITY FOR MESENCHYMAL STEM CELLS**

**Attorney Docket No.: 2578-3833.6US**

**Serial No.: 10/038,271**

**Filing Date: 10/23/2001**

**Title: PACKAGING SYSTEMS FOR HUMAN RECOMBINANT  
ADENOVIRUS TO BE USED IN GENE THERAPY**

**Attorney Docket No.: 2578-5226US**

**Serial No.: 10/040,949**

**Filing Date: 1/7/2002**

**Title: INFECTION WITH CHIMAERIC ADENOVIRUSES OF CELLS  
NEGATIVE FOR THE ADENOVIRUS SEROTYPE 5  
COXSACKI ADENOVIRUS RECEPTOR (CAR)**

**Attorney Docket No.: 2578-5233US**

**Serial No.: 10/042,770**

**Filing Date: 1/9/2002**

**Title: GENE THERAPY FOR ENHANCING AND/OR INDUCING  
ANGIOGENESIS**

**Attorney Docket No.: 2578-3833.7US**

**Serial No.: 10/125,751**

**Filing Date: 4/18/2002**

**Title: PACKAGING SYSTEMS FOR HUMAN RECOMBINANT  
ADENOVIRUS TO BE USED IN GENE THERAPY**

**Attorney Docket No.: 2578-3955.1US**

**Serial No.: 10/136,139**

**Filing Date: 5/1/2002**

**Title: MEANS AND METHODS FOR NUCLEIC ACID DELIVERY  
VEHICLE DESIGN AND NUCLEIC ACID TRANSFER**

**Attorney Docket No.: 2578-4615.1US**

**Serial No.: 10/164,085**

**Filing Date: 6/4/2002**

**Title: COMPLEMENTING CELL LINES**

**Attorney Docket No.: 2578-3982.3US**

Attorney Docket No.: 2578-4451.1US  
Serial No.: 10/196,688  
Filing Date: 7/15/2002  
Title: ADENO-ASSOCIATED VIRUS AND ADENOVIRUS  
CHIMERIC RECOMBINANT VIRUSES USEFUL FOR THE  
INTEGRATION OF FOREIGN GENETIC INFORMATION  
INTO CHROMOSOMAL DNA OF TARGET CELLS

Attorney Docket No.: 2578-3833.8US  
Serial No.: 10/219,414  
Filing Date: 8/15/2002  
Title: STOCKS OF REPLICATION DEFICIENT ADENOVIRUS

Attorney Docket No.: 2578-5233.1US  
Serial No.: 10/224,249  
Filing Date: 8/19/2002  
Title: GENE THERAPY FOR ENHANCING AND/OR INDUCING  
ANGIOGENESIS

Attorney Docket No.: 2578-4215.1US  
Serial No.: 10/231,735  
Filing Date: 8/28/2002  
Title: INTERLEUKIN-3 GENE THERAPY FOR CANCER

Attorney Docket No.: 2578-4038.2US  
Serial No.: 10/234,007  
Filing Date: 9/3/2002  
Title: RECOMBINANT PROTEIN PRODUCTION IN A HUMAN  
CELL

Attorney Docket No.: 2578-4080.1US  
Serial No.: 10/235,175  
Filing Date: 9/4/2002  
Title: TARGETED DELIVERY THROUGH A CATIONIC AMINO  
ACID TRANSPORTER

Attorney Docket No.: 2578-4615.2US  
Serial No.: 10/272,041  
Filing Date: 10/15/2002  
Title: COMPLEMENTING CELL LINES

**Attorney Docket No.: 2578-5592US**  
**Serial No.: 10/305,435**  
**Filing Date: 11/25/2002**  
**Title: METHODS AND MEANS FOR ENHANCING SKIN**  
**TRANSPLANTATION USING GENE DELIVERY VEHICLES**  
**HAVING TROPISM FOR PRIMARY FIBROBLASTS, AS WELL**  
**AS OTHER USES THEREOF (PRIMAIRE FIBROBLASTEN)**

**Attorney Docket No.: 2578-5832US**  
**Serial No.: 10/381,088**  
**Filing Date: 3/20/2003**  
**Title: ADENOVIRAL VECTORS PROVIDED WITH A TROPISM FOR**  
**DENDRITIC CELLS**

**Attorney Docket No.: 2578-5904US**  
**Serial No.: 10/381,857**  
**Filing Date: 8/13/2003**  
**Title: ADENOVIRAL VECTORS FOR GENE DELIVERY IN**  
**SKELETAL MUSCLE CELLS OR MYOBLASTS**

**Attorney Docket No.: 2578-3840.2US**  
**Serial No.: 10/396,548**  
**Filing Date: 3/25/2003**  
**Title: PACKAGING SYSTEMS FOR HUMAN RECOMBINANT**  
**ADENOVIRUS TO BE USED IN GENE THERAPY**

**Attorney Docket No.: 2578-3833.9US**  
**Serial No.: 10/618,526**  
**Filing Date: 7/11/2003**  
**Title: PACKAGING SYSTEMS FOR HUMAN RECOMBINANT**  
**ADENOVIRUS TO BE USED IN GENE THERAPY**

**Attorney Docket No.: 2578-6077US**  
**Serial No.: 10/644,256**  
**Filing Date: 8/20/2003**  
**Title: EFFICIENT PRODUCTION OF IgA IN RECOMBINANT**  
**MAMMALIAN CELLS**

**Attorney Docket No.: 2578-4489.1US**  
**Serial No.: 10/646,449**  
**Filing Date: 8/22/2003**  
**Title: GENE DELIVERY VECTORS PROVIDED WITH A TISSUE**  
**TROPISM FOR DENDRITIC CELLS AND METHODS OF USE**



**Attorney Docket No.: 2578-3982.3US**

Attorney Docket No.: 2578-6158US  
Serial No.: 10/698,086  
Filing Date: 10/30/2003  
Title: METHODS FOR THE IDENTIFICATION OF ANTIVIRAL  
COMPOUNDS

This Information Disclosure Statement is filed within three (3) months of the filing date of the above-identified application, and no certification pursuant to 37 C.F.R. § 1.97(c) or a fee pursuant to 37 C.F.R. § 1.17(p) is required.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Allen C. Turner', with a long horizontal stroke extending to the right.

Allen C. Turner  
Registration No. 33,041  
Attorney for Applicant(s)  
TRASKBRITT, P.C.  
P.O. Box 2550  
Salt Lake City, Utah 84110-2550  
Telephone: 801-532-1922

Date: February 19, 2004  
ACT/bv

Enclosures: Form PTO-1449 or PTO/SB/08  
Cited Documents

Document in ProLaw

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<i>Complete if Known</i>	
				Application Number	To be assigned
				Filing Date	February 9, 2004
				First Named Inventor	Vogels et al.
				Group Art Unit	(presumed) 1632
				Examiner Name	(presumed) J. Qian
				Attorney Docket Number	2578-3982.3US
Sheet	1	of	3		

[illegible][illegible]

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Substitute for form 1449A/PTO				<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				Application Number	To be assigned
				Filing Date	February 9, 2004
				First Named Inventor	Vogels et al.
				Group Art Unit	(presumed) 1632
				Examiner Name	(presumed) J. Qian
Sheet	2	of	3	Attorney Docket Number	2578-3982.3US

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		#BOUCHER et al., J. Clin. Invest., 1999 Feb, pp. 441-45, Vol. 103.	
		#BOWIE et al., Science, 1990 Mar, pp. 1306-10, Vol. 247.	
		#CRYSTAL et al., Transfer of Gene to Human: Early Lessons and Obstacles to Success, 1995, Science, Vol. 270, pp. 404-10.	
		#DEONARAIN, Expert Opin. Ther. Pat., 1998, pp. 53-69, Vol. 8.	
		#ECK et al., Gene-Based Therapy, 1996 Goodman & Gilman's, pp. 77-101.	
		#GALL et al., Journal of Virology, 1996, pp. 2116-23, Vol. 70.	
		#GUZMAN et al., PNAS, 1994, pp. 10732-36, Vol. 91.	
		#KAYE et al., A single amino acid substitution results in a retinoblastoma protein defective in phosphorylation and oncoprotein binding, September 1990, Proc. Natl. Acad. Sci., pp. 6922-26, Vol. 87.	
		#LAZAROVITS et al., J. Immunol., 1993, pp. 6482-89, Vol. 151.	
		#LUSKY et al., Journal of Virology, 1998, pp. 2022-32, Vol. 72.	
		#MAKRIDES et al., Protein Exp. Pur., 1999, pp. 183-202, Vol. 17.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Substitute for form 1449A/PTO				<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				Application Number	To be assigned
				Filing Date	February 9, 2004
				First Named Inventor	Vogels et al.
				Group Art Unit	(presumed) 1632
				Examiner Name	(presumed) J. Qian
Sheet	3	of	3	Attorney Docket Number	2578-3982.3US

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		#MEI et al., Virol., 1998, pp. 254-66, Vol. 240.	
		#MILLER et al., FASEB J., 1995, pp. 190-99, Vol. 9.	
		#ROBBINS et al., Pharmacol. Ther., 1998, pp. 35-47, Vol. 80.	
		#RUDINGER et al., Characteristics of the amino acids as components of a peptide hormone sequence, 1976, Peptide Hormones, pp. 1-7.	
		#RUSSELL et al., Nat. Genet., 1998 Apr., pp. 325-30, Vol. 18.	
		#SHANG et al., J. Immunol., 1998, pp. 467-74, Vol. 160.	
		#STEVENSON et al., J. Virol., 1997, pp. 4782-90, Vol. 6.	
		#SU, et al., A Genetically Modified Adenoviral Vector Exhibits Enhanced Gene Transfer of Human Smooth Muscle Cells, Journal of Vascular Research 2001, pp. 471-78, Vol. 38.	
		#VERMA et al., Nature, 1997, pp. 239-42, Vol. 389.	
		#WICKHAM et al., Increased In Vitro and In Vivo Gene Transfer by Adenovirus Vectors Containing Chimeric Fiber Protein, Nov. 1997, Journal of Virology, pp. 8221-29, Vol. 71, No. 11.	
		#WICKHAM et al., Increased In Vitro and In Vivo Gene Transfer by Adenovirus Vectors Containing Chimeric Fiber Protein, Nov. 1997, Journal of Virology, pp. 8221-29, Vol. 71, No. 11.	
		#ZINK et al., Gene Ther. Mol. Biol., 2001 Jan., pp. 1-24, Vol. 6.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

#Pursuant to 37 C.F.R. § 1.98(d), copies of the previously identified patents are not being provided since they were previously cited by or submitted to the Office in the following prior application:

Serial No.: 09/517,898

Filed: March 3, 2000

For: MEANS AND METHODS FOR FIBROBLAST-LIKE OR MACROPHAGE-LIKE CELL TRANSDUCTION, which application is being relied upon for an earlier filing date under 35 U.S.C. § 120.

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.